

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)	
)	
Amendment of Part 90 of the)	PR Docket No. 89-552
Commission's Rules To Provide)	RM-8506
for the Use of the 220-222 MHz Band)	
by the Private Land Mobile)	
Radio Service)	
Implementation of Sections 3(n) and 332)	
of the Communications Act)	GN Docket No. 93-252
)	
Regulatory Treatment of Mobile Services)	
Implementation of Section 309(j) of the)	
Communications Act -- Competitive)	PP Docket No. <u>93-253</u>
Bidding, 220-222 MHz)	

To: The Commission

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COMMENTS

Fred Daniel d/b/a Orion Telecom (Orion) hereby submits its Comments in the above captioned matter. In support of its position, Orion shows the following:

Orion is an operator of Automated Maritime Telecommunications System stations in the band 216-220 MHz. Orion has experienced adverse effects on its AMTS system from the operation of Private Land Mobile Radio Service stations on frequencies which are close to the frequencies which are allocated to AMTS use. Accordingly, Orion is qualified to comment in the above captioned proceeding and to suggest the relief which it requests herein.

Preliminary Procedure

The Commission has commenced what may be deemed to be either one or two rule making proceedings under PR Docket No. 89-552 and GN Docket No. 93-252. On August 28, 1995, the Commission released its Second Memorandum Opinion and Order and Third Notice of Proposed Rule Making (FCC 95-312) in those dockets (the "Third Notice"). The next day, on August 29, 1995, the Commission released its Fourth Notice of Proposed Rule Making (FCC 95-381) in those same dockets (the "Fourth Notice"). Orion herein respectfully calls the Commission's attention to a situation which requires the Commission's action with respect to both the matters discussed in the Third Notice and the matters discussed in the Fourth Notice. To allow its instant Comments to be considered with respect to both the Third Notice and the Fourth Notice, Orion is filing its Comments in accord with the shorter comment period provided by the Fourth Notice.

Adjacent Channel Interference Protection Should Be Consistent

Section 90.715 of the Commission's Rules, 47 C.F.R. §90.715, demonstrates that the highest Private Land Mobile base station transmit channel is immediately adjacent to the lowest Private Land Mobile mobile transmit channel. Consequently, base stations operating on the

higher base station frequencies have the potential to cause adjacent channel interference¹ to the reception of mobile units which are associated with different, nearby systems.

The Commission's current Part 90, Subpart T Rules governing use of the 220-222 MHz band take into account the close frequency spacing between the top of the base station side of Sub-band B and the bottom of the mobile unit side of Sub-band A. To avoid adjacent channel² interference between Sub-band B base station transmitters and Sub-band A base station receivers, the Commission has imposed special effective radiated power/geographic separation requirements on adjacent channel base station receivers and transmitters, *see*, 47 C.F.R. §90.723(d).³ To provide adequate protection to adjacent channel AMTS base station receivers from Private Land Mobile base station transmitters operating on Sub-band A, the Commission needs to impose

¹ "Adjacent channel interference" is a phenomenon whereby undesired emissions from a base station — operating fully in compliance with its authorization and the Commission's emission bandwidth limitations — injects a sufficiently high level of noise into a receiver tuned to a frequency which is numerically close to the base station transmitter frequency that the receiver is no longer sensitive to desired signals. The victim receiver is said to be "desensitized" by the noise entering at its antenna; a desensitized base station receiver is simply unable to receive the transmissions of associated mobile units. Because adjacent channel interference is disabling, but often does not present obvious, audible symptoms when it occurs, it is necessary to prevent its occurrence by the Commission's imposing geographic separation requirements on adjacent channel stations. The required geographic separation varies with the base station transmitter's effective radiated power.

² In this context, the term "adjacent channel" refers broadly to channels which are close to one another in frequency, and may include more channels than the first adjacent channels of two bands.

³ The Commission has imposed the geographic separation requirements on transmitters and receivers operating on frequencies separated by 200 kHz or less.

identical power/geographic separation requirements on Sub-band A transmitters with respect to the location of AMTS base station receivers.

Orion operates an AMTS system at Santiago Peak in Orange County, California. When a Private Land Mobile transmitter began operating at Santiago Peak under Special Temporary Authority on a frequency separated by only 7.5 kHz from Orion's nearby base station receiver, Orion's base station receiver suffered severe desensitization from the adjacent channel radiation and became unable to receive transmissions from Orion's associated ship stations. Given the separation between the two stations' frequencies, it has become clear from Orion's experience that the operation of a station on the lower frequencies of the 220-222 MHz Private Land Mobile band will destroy the utility of an AMTS station operating in the upper portion of the 216-220 MHz Maritime band unless the Commission imposes a sufficiently conservative geographic separation between such stations which is dependent on the ERP of the Private Land Mobile station.

Adjacent Channel Interference Protection Is At Issue

In its Third Report and Order in the above captioned proceeding, the Commission proposed to allow certain Private Land Mobile licensees to aggregate channels, but proposed to require them to conform to existing emission masks at the lower and upper edges of their total authorized bandwidth. The continued imposition of an emission mask on the outer edges of a Private Land Mobile licensee's authorized spectrum is intended to avoid adjacent channel interference between Private Land Mobile systems. More specifically, at paragraph 67 of the

Third Notice, the Commission acknowledged the necessity of providing adequate interference protection between transmitters and receivers on adjacent channels. Accordingly, the issue of avoidance of adjacent channel interference in what is generally known as the "220 MHz band" has clearly been raised by the Commission's notices of proposed rule making in the instant dockets. To provide adequate protection to AMTS systems, the Commission should require Private Land Mobile stations operating on certain frequencies not only to conform to the emission mask requirements, but to provide sufficient geographic separation from AMTS base station receivers to avoid causing adjacent channel interference to them.

To provide sufficient protection to AMTS systems, the Commission should immediately amend Rule Section 90.723(d) to provide the same degree of protection to AMTS systems from Private Land Mobile systems that it provides between adjacent channel Private Land Mobile base station transmitters and receivers. Accordingly, Orion respectfully requests that the Commission amend 47 C.F.R. §90.723(d) to read, as follows:

(d) Base station receivers utilizing channels from Sub-band A as designated in §90.715(b) of this Part will be geographically separated from those base station transmitters utilizing channels removed 200 kHz or less and assigned from Sub-band B, and base station transmitters utilizing channels assigned from Sub-band A will be geographically separated from base station receivers utilizing channels removed by 200 kHz or less and assigned to stations authorized to provide Automated Maritime Telecommunications System under Part 80 of the Commission's Rules, as follows:

To provide adequate protection for AMTS systems from adjacent channel interference from Private Land Mobile stations, the Commission should apply the suggested amendment of

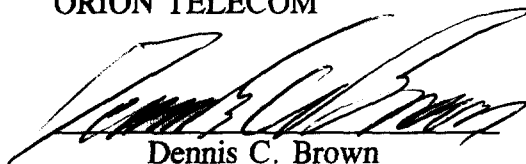
Rule Section 90.723(d) to any Phase II licensing to be conducted under rules adopted pursuant to the Third Notice. The Commission should also apply the suggested amendment of Rule Section 90.723(d) to any modification of an existing Private Land Mobile station license to be permitted by any rules adopted pursuant to the Fourth Notice in the above captioned matter.

Conclusion

For all the foregoing reasons, Orion respectfully requests that the Commission provide adequate adjacent channel interference protection to AMTS systems by amending 47 C.F.R. §90.723(d) as suggested herein.

Respectfully submitted,
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